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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 35137-2025

Replacing GB/T 35137-2017

The high-frequency reciprocating rig for diesel fuel assessment of lubricity

柴油润滑性评定用高频往复试验机

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 35137-2017 "High Frequency Reciprocating Test Machine for Diesel Oil Lubricity Assessment" and is consistent with GB/T 35137-2017.

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) The definition of "lubricity" in "Terms and Definitions" has been changed (see 3.1, 3.1 of the 2017 edition);

b) The term "uncorrected average wear spot diameter" in "Terms and Definitions" was deleted (see 3.2 of the 2017 edition);

c) Added the term "wear spot diameter" in "Terms and Definitions" (see 3.3);

d) The term "corrected wear spot diameter" in "Terms and Definitions" was deleted (see 3.3 of the 2017 edition);

e) Changed the definition of "verification" in "Terms and Definitions" (see 3.4, 3.4 of the 2017 edition);

f) Changed the system structure and the schematic diagram of the main structure of the testing machine in "System Structure and Test Principle", and added the vibration shaft and stroke displacement Sensor, vibration isolation base, test ball fixture, friction measurement table and friction sensor (see 4.1, 4.1 of the 2017 edition);

g) Added the provision of using average wear spot diameter in "System composition and test principle" (see 4.2, 4.2 of the 2017 edition);

h) Changed the appearance requirements in the "Technical Requirements" (see 5.1, 5.1 of the 2017 edition);

i) The permissible ranges of temperature and relative humidity in the test chamber in the "Technical Requirements" have been tightened (see 5.2.2.1, 5.2.2.1 of the 2017 edition);

j) The adjustment methods and requirements for temperature and relative humidity in the test chamber in the "Technical Requirements" have been tightened (see 5.2.2.2, 2017 Edition). 5.2.2.2);

k) Changed the requirements for data measurement systems in the "Technical Requirements" (see 5.2.3, 5.2.3 of the 2017 edition);

l) Changed the repeatability requirements in the "Technical Requirements" (see 5.2.4, 5.2.4 of the 2017 edition);

m) The load test method in "Test method" has been changed (see 6.2.1.2, 6.2.1.2 of the 2017 edition);

n) The stroke test method in "Test method" has been changed (see 6.2.1.3, 6.2.1.3 of the 2017 edition);

o) The test method for frequency in "Test method" has been changed (see 6.2.1.4, 6.2.1.4 of the 2017 edition);

p) The test method for oil sample temperature in "Test method" has been changed (see 6.2.1.5, 6.2.1.5 of the 2017 edition);

q) The test method for test time in "Test method" has been changed (see 6.2.1.6, 6.2.1.6 of the 2017 edition);

r) Changed the location requirements for measuring temperature and relative humidity in the "Test Method" (see 6.2.2.1, 6.2.2.2, 6.2.2.1, 2017 edition) 6.2.2.2);

s) Added the method for checking the pixels of digital microscope photos in the "Test Method" (see 6.2.3.2, 6.2.3 of the 2017 edition);

t) The test method for repeatability in "Test method" was changed (see 6.2.4, 6.2.4 of the 2017 edition);

u) The standard basis of the test materials in "Verification of the instrument" has been changed (see 7.1, 7.2, 7.1, 7.2 of the 2017 edition);

v) Changed the provisions for reference oil in "Instrument Verification" (see 7.3, 7.3 of the 2017 edition);

w) The provisions on the operating principles in "Verification of the instrument" have been modified (see 7.4, 7.4 of the 2017 edition).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

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The previous versions of this document and the documents it replaces are as follows.

- First published in 2017 as GB/T 35137-2017;

- This is the first revision.

1 Scope

This document specifies the system composition and test principle, technical requirements, instrument verification, inspection rules, packaging and accessories of the high-frequency reciprocating test machine.

The machine documentation, transportation, storage and installation conditions describe the corresponding test methods.

This document applies to high frequency reciprocating testing machines for diesel lubricity assessment.

2 Normative references

GB/T 308.1-2013

GB/T 6587

GB/T 13384

GB/T 18254-2016

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Lubricity

A property of a fluid that affects friction between surfaces under load and in relative motion with friction.

Note. This testing machine uses the size of the wear spot on the test ball to evaluate the lubricity of the liquid. The size of the wear spot is expressed in microns.

The test piece is completely immersed in the liquid to be tested and the friction between